

ABSTRACT

5 This invention provides a controlled temperature, thermal-assisted magnetic
memory device. In a particular embodiment, there is an array of SVM cells, each
characterized by an alterable orientation of magnetization and including a material wherein
the coercivity is decreased upon an increase in temperature. In addition, at least one
reference SVM (RSVM) cell substantially similar to and in close proximity to the SVM
cells of the array is provided. A provided feedback control temperature controller receives a
feedback voltage from the reference SVM cell, corresponding to temperature, and adjusts
power applied to the RSVM cell and SVM cell. An associated method of use is further
10 provided.